difficulty in securing first class spar from the Iceland deposit has steadily increased, much of the material taken out being useless for optical purposes.

Occasional finds of doubly refracting spar have been made elsewhere without resulting in the development of a new supply.

While the total amount of spar required is not great, the maintenance of a certain production is necessary for the manufacture of Nicols prisms to be used in dichroscopes for testing pleochroism of gem stones, polariscopes, polarizing microscopes and saccharimeters. Other substances having as great a difference in the refractive indices of the ordinary and extraordinary rays are all unsuitable for replacing Iceland spar in optical instruments.

It is possible that the Montana veins might be made to return a commercial product of spar if they were worked with sufficient care. From one vein six hundred pounds of crystals are said to have been shipped to an agent who sold the spar in Germany, receiving $3,000 therefor. These crystals had been sorted from thirty to forty tons of calcite blasted out in the sinking of a seventy-five-foot shaft.

The Montana deposit lies in two vertical veins in gneiss. The veins are four to seven feet wide, probably at least 100 feet deep, and are several miles long. The deposits are near the surface, easily mined, and quite accessible to the railroad. The crystals practically fill the entire vein without any admixture of foreign intrusions.

So far, no absolutely perfect crystals have been obtained from these veins, but it is altogether likely that a better product may be had by more careful mining. The imperfections are of two kinds. Some crystals have a very slight, gray cloudiness, which renders them unsuitable for optical purposes. This defect is inherent. The bulk of the material, however, while perfectly clear shows slight cleavage in the interior of the crystals. This may be and probably is due to the shocks to which the crystals are subjected in mining.

Some of the crystals were obtained by the Bureau of Mines and submitted to the Bureau of Standards for test. Their report is quoted below.

> The larger sample does show interference colors in places in its body as noted by ————. We are not, however, of the opinion that this renders the whole crystal useless for optical purposes. It would appear that good material for small optical parts (*e. g.*, small Nicols prisms) might be cut from this crystal.
>
> It is also true that the smaller sample is very slightly turbid (milky). This makes it not strictly first class, but for some purposes would not impair its use. Otherwise it is an exquisite sample. We would like to have for our own use a considerable supply of material.

If a market could be developed for pure calcite to pay for mining a large tonnage of these deposits, it appears altogether probable that good optical crystals could be obtained as a by-product in quantity sufficient for all scientific requirements, and so meet the need caused by the diminishing output from Iceland.

CHAS. L. PARSONS

BUREAU OF MINES,
WASHINGTON

SCIENTIFIC EVENTS

INVENTIONS SECTION OF THE GENERAL STAFF OF THE DEPARTMENT OF WAR

THE following statement is authorized by the War Department:

In order to secure prompt and thorough investigation of inventions submitted to the War Department an "Inventions Section" has been created as an agency within the General Staff. All inventions of a mechanical, electrical, or chemical nature submitted to the War Department for inspection, test, or sale are now considered by this section.

Inventions may be sent by mail or may be submitted in person, accompanied by written descriptions or drawings. They go first to an examining board having technical knowledge of the classes of inventions they handle, whose investigations determine whether the inventions have merit. Those with merit are referred to the Advisory Board, which determines in each case whether it should be put in the hands of some of the numerous testing and

developing agencies, or if it should go to one of the staff or supply departments for test and consideration of its adoption, and final acquirement of title if such action is desirable.

Composing the Advisory Board at present are the following: D. W. Brunton, member Naval Consulting Board and chairman War Committee of Technical Societies; Dr. Graham Edgar, member National Research Council; Colonel James W. Furlow, Quartermaster Department, chief of Motors Division; Colonel J. A. Hornsby, M.C., chief of Hospital Division, Surgeon General's Office; Lieutenant Colonel Morgan L. Brett, Ordnance Department, Engineering Branch; Lieutenant Colonel Robert A. Millikan, S.C., chief of Science and Research Division; Lieutenant Colonel N. H. Slaughter, S.C., chief of Radio Development Section; Major Joseph A. Mauborgne, S.C., chief of Electrical Engineering Section.

When completed the board will have 12 to 15 members to cover fully all of the various technical problems which may come before it.

In testing and developing inventions and in considering problems presented by staff departments, the Advisory Board works in connection with a number of agencies. Among them are the following: National Research Council; Bureau of Standards; War Committee of National Technical Societies (this committee consists of two members detailed from each of the 10 important technical societies in the United States); laboratories and shops of the staff and supply departments of the Army; Patent Office; Aircraft Production Board; all Army service schools; C. L. Norton, Massachusetts Institute of Technology, Cambridge, Mass.; Dr. Charles P. Steinmetz, General Electric Co., Schenectady, N. Y.; A. H. Beyer, chairman committee on testing laboratory, Columbia University, Broadway and 117th Street, New York City; R. R. Abbott, metallurgist, Peerless Motor Car Co., Cleveland, Ohio; Dr. John A. Matthews, president Halcomb Steel Co., Syracuse, N. Y.; Knox Taylor, president Taylor-Wharton Iron & Steel Co., High Bridge, N. J.; Howard D. Colman, Baber-Colman Co., Rockford, Ill.; Preston S. Miller, Electrical Testing Laboratories, Eightieth Street and East End Avenue, New York City; Herbert Fisher Moore, University of Illinois, Urbana, Ill.; L. F. Miller, metallurgist, Mitchell Moore Co., 1832 Asylum Avenue, Racine, Wis.; E. J. Okey, the Timken Roller Bearing Co., Canton, Ohio; Dr. Aleš Hrdlička, curator division of physical anthropology, United States National Museum, Washington, D. C.

Any person desiring to submit an invention for consideration, test, sale or development should do so by letter, giving in order the following information: Name and object of the invention; any claim for superiority or novelty; any results obtained by actual experiment; whether the invention is patented; whether remuneration is expected; whether the invention has been before any other agency; whether the writer is owner or agent; the number of inclosures with the letter. A written description and sketches or drawings of sufficient detail to afford a full understanding of the cases should also be submitted. Should the invention be an explosive or other chemical combination, the ingredients and processes of mixture should be stated.

The Inventions Section will not bear the expense of preparation of drawings and descriptions, nor advance funds for personal or travelling expenses of inventors.

Any matter submitted will be treated as confidential. The inventor will be notified of each step taken during the investigation of his invention. All communications should be addressed: Inventions Section, General Staff, Army War College, Washington, D. C.

THE VOLUNTEER MEDICAL RESERVE CORPS

Dr. Franklin Martin, member of the advisory commission and chairman of the general medical board of the Council of National Defense, authorizes the statement that following out the plans for organizing the volunteer medical service corps, to enlist the services of physicians ineligible for camp or field duty, the medical section of the Council of National Defense is sending to several thousand doctors a letter which says in part:

The Council of National Defense has authorized and directed the medical section of the council to